Utah Department of Transportation
Traffic Management Division

March 2014

Monthly Report

2060 South 2760 West Salt Lake City, Utah 84104 801-887-3710 www.udottraffic.utah.gov

Mission of the Traffic Management Division

- To Support UDOT and the Department of Public Safety to Achieve Zero Fatalities.
- To Help Provide Reliable and Efficient Travel Throughout Utah.
- To Provide Useful and Timely Real-time Traffic Information.
- To Work Together with Other Government Agencies to Serve the Public.
- To Provide Excellent Customer Service.

Field Devices Summary

Freeway PTZ Cameras	351	Freeway VMS	91
Arterial PTZ Cameras	393	Surface Street VMS	58
RWIS & Contracted Weather Cameras	171	Portable TOC VMS	7
Viewable Detection Cameras	83	Legacy Trucks Prohibited VMS	21
Total Cameras	998	Variable Speed Limit VMS	15
HAR (27 permanent/5 portable)	32	Total VMS	192
RWIS	84	TMS	537
Ramp Meters	63	Traffic Signals	1534

Operations Summary

VMS Messages Displayed	40,902	IMT Assists	1897
Signal Timing Work Orders	27	Website Visitor Sessions	134,987
Signal Maintenance Work Orders	151	511 Calls	19,229
All New Work Orders	366	Weather Desk Calls	493
Incident Responses by the TOC	680	Ask CommuterLink Questions	45
Incident Duration Average Minutes	87	UDOT Traffic Followers and Re-tweets	172,620

March 2014

TRAVELER INFORMATION Participated in the Little Cottonwood Canyon avalanche evacuation exercise; hosted a TOC tour for the new R3 Region Communications Manager; represented UDOT at a Salt Lake City Marathon planning meeting; coordinated registration for the April 2014 Traffic Incident Management training; supported the upcoming UHP Express Lanes compliance blitz; assisted with Continuity of Operations Plan; pursued trade marking "UDOT Traffic"; and participated in the Connected Vehicle RFI brainstorm meetings.

TRAFFIC SIGNAL OPERATIONS have completed signal retiming projects for most of the signals in Cedar City and corridors in Provo; 700 East from 900 South to 3300 South in Salt Lake; Mountain View Corridor; State Street in Utah County from Orem to Lehi; and several signals near the University of Utah campus. The team has also added more signals to the Automated Signal Performance Measure website; installed new and repaired existing emergency vehicle signal preemption in Saratoga Springs, Lehi, American Fork and Pleasant Grove; and assisted Provo City staff with some of the city owned signals in signal maintenance, troubleshooting, and with bringing new signals into operation.

TRAFFIC OPERATIONS AND REPORTING provided support for the I-15 Point Design Build, Provo/Orem BRT lane configuration, Bangerter Highway at Redwood Road Design Build, I-15 10600 Southward Design Build, and South Davis Operational Improvements Design Build Projects. The Team also provided support to the I-15 Operational Study, Sunset Blvd/Bluff St, St. George Blvd/Bluff St, University Parkway Corridor, and 7800 South/9000 South Jurisdictional Transfer studies. The team participated in the Inrix Data Discussion; DDI guidelines document preparation and UIACR process development; worked on the new web-based congestion reporting system; participated in partnering efforts with the UDOT planning group; and provided support to the Mountain View Corridor, I-80/State Street EIS, and 5400 South High T intersection west of Bangerter Highway projects.

ITS ASSET MANAGEMENT integrated three surface street VMS, two new LiveView cameras, and removed two signal detection cameras from service. The HAR at Knudsens Corner and 13400 S Bangerter locations were dismantled and removed from service. The team prepared the quarterly Open Work Order Summary which showed about 250 work orders to be open, which is down from over 600 at the first of the year.

Region 1 - Matt Smith

Ogden Area Signal Interconnect:
Concept, locations and design are being re-examined.

SR 193 Extension:
This project is under construction. Punch list items are being mitigated.

I-15; SR126 to US-91:
This project is complete and final issues with four devices will be mitigated with another project. Construction has begun.

I-15; SR-30 to the Idaho State line:
This project is being designed by Pinetop Engineering and is ready to advertise. This project needs major funding for ATMS. This project has been added to the STIP.

Layton Interchange:
This project is in design.

Brigham DDI Interchange:
This project is under construction.

Weber Canyon De-Icing sign communication:
Project has been completed.

US-89; SR-193 to Cornia Drive:
This project is in design.

US-89; Antelope Drive Extension:
This project is in design.

Hill Field and Main in Layton:
This is project is in design.

Region 2 - Chris Siavrakas

Layton and Centerville received 25 completed UTOPIA fiber connections to traffic signals**.**

Murray and West Valley will receive 42 UTOPIA fiber connections to traffic signals as the next phase of interconnect within the upcoming months.

Region 3 March 2014

I-15 NB VMS in Lehi (12106) – On schedule for bid opening April 7.

Saratoga Springs; Pony Express; SR-68 to 800 West (8581) – Negotiating Integration WTO

I-15; Spanish Fork to Payson (10262) – 30 day Burn-in of devices complete. Contractor needs to provide construction as-builts before beginning project close-out.

Spanish Fork Dispatch upgrade (11423) – Equipment installation inside Public Works Building and Police Headquarters WTO established. Scrubbing state furnished materials equipment list.

SR-92 CCTV/Hybrid VMS (12641) – Established design/integrator contract.

SR-145 Pioneer Crossing Extension to SR-73 (11349) – Established WTO's for ATMS inspection, integration and for the fiber splice details/network channel diagrams.

SR-121 @ State Street; Roosevelt (12078) – Reviewed/redlined ATMS design plans.

Park City Area Traveler Information Infrastructure signing (12812) – Established project in ePM to partner with Region 2 and Park City to install smaller, roadside message boards to inform travelers ingress/egress information.

I-15; SR-92 to SR-73 Fiber/Conduit upgrade installation (12806) – Established project in ePM to design/construct new (upgrade) fiber and conduit.

US-40 CCTV/Signal connections (12805) - Established project in ePM to add CCTV's and fiber connections to existing signals in Roosevelt, Naples, Duchesne, Maeser areas.

Region 4 – Matt Smith

St. George:
Working on a scope to connect Hurricane City to the network.

VMS for I-70 and SR-6:
The concept has been completed for the three locations; WBI-70 (East of Green River Exit), EB I-70 (Prior to Salina Interchange), SB US-6 (Near Helper and adjacent to existing NB VMS). This project has been funded and will proceed to design. Project has been advertised and awaiting bids.

Fiber upgrade for US-6, Helper and Price Signal Integration:
Hired a contractor off the fiber procurement contract for the this portion. Waiting for signal connections from Emery Telecom.

Region 4 – Matt Smith cont.

Various Small VMS locations for ICY Bridge at I-70 and Fish Springs, and Halls Crossing at Lake Powell:
Concept and design is complete. Cache Valley Electric has been hired to work on this.

I-15; North Beaver to Manderfield:
This project has been advertised and is under construction.

I-15; Cedar City Two VMS:
Project is completed and being integrated.

Price, Helper fiber and Interconnect:
This project has been completed.

ATMS

ATMS MAINTENANCE –
Teaming – All four teams have been closing old work orders. The Express Lane and Lab Teams located the conduit; pulled in the locate wire for the Wanship project, and replaced stolen wire at 1000 North on I-215; provided oversight for contracted ASTM work; adjusted the Variable Speed Limit photocells; and assisted the Fiber Team in repairing a fiber channel and troubleshooting associated communication hub problems.

Field Team installed and programmed 11 new VMS controllers. This work reduces the number of controllers needed at each site, and will reduce the sign display problems that have been experienced.

Lab Team tested and/or repaired 40 ATMS devices; adjusted Variable Speed Limit (VSL) sign brightness; replaced four VSL signs with failing pixels; and replaced one with a failing serial converter. The team set up two traffic signal cabinets; removed and decommissioned seven loop detection TMS sites; repaired damage at an attempted wire theft site; and restored six TMS sites to operational condition.

Express Lanes Team reset a fiber switch; programmed and installed six lane controllers; reset nine VTMS's; reset two RFID tag readers; surveyed 5300 South for site tag reads compared to system reads; and participated in the Violation Survey Studies. The Team began updating the inventory and asset management data base for the Express Lane system.

ITS Standards and Specifications

Procurement:

Bids were received for the new VMS at Brigham City. This is Phase II of the traveler information system. Time was given to the evaluation team to review the proposals for crew qualifications, method, schedule, and cost.

Work continues on the ATMS Install and Repair contract.

Work continued on the equipment contract for the 5400 Flex lanes.

Work continues on the Camera Lowering System - 2 Step Bid. Several modifications to the pole will be included to ease lowering arm removal for maintenance while in a lift truck.

Prices were requested from Daktronics for specifically sized VMSs. These will be used for Truck Prohibited systems on the Legacy Parkway.

Work continues on the VMS contract renewal. Information was gathered to determine what sign versions were purchased by UDOT during the last five years.

A contract to provide signal and pedestrian pole, hand hole covers was awarded. The contract will provide factory direct replacements for missing covers discovered in the field.

Silver Barrel Award

Brady Roberts Robert Miles
Lisa Miller Robert Clayton

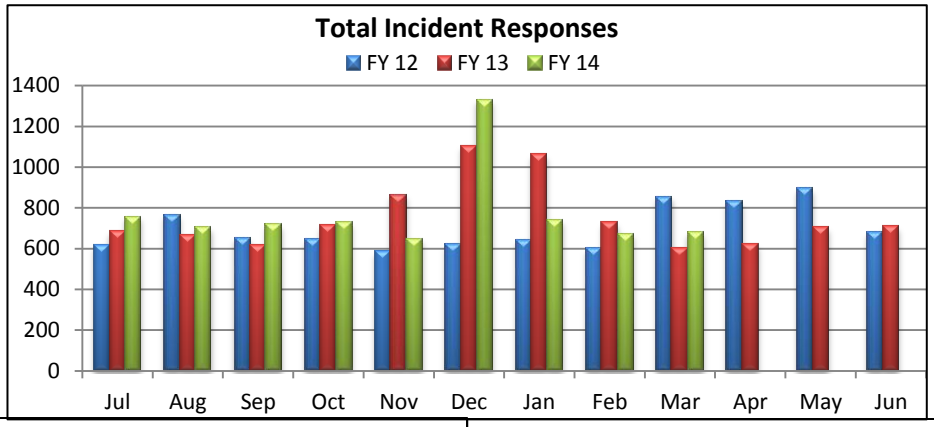
Liam Fitzgerald Paul Jencks
Lee Nitchman Chuck Felice

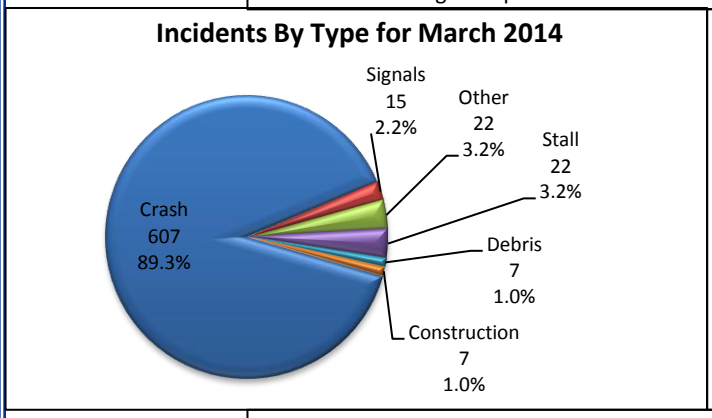
The UDOT Silver Barrel Award was given for the Little Cottonwood Canyon communications tool. The tool was designed and built by the TOC with input and support from R2. The Communications Tool helps to streamline public facing information in Little Cottonwood Canyon, providing more reliable and consistent messaging during Canyon closures. The Communications Tool also helps to alleviate additional duties from avalanche forecasters, police, maintenance crews and other canyon stakeholders by consolidating communications efforts. The Communications Tool has been successful and is now being expanded to Big Cottonwood and Provo Canyons.

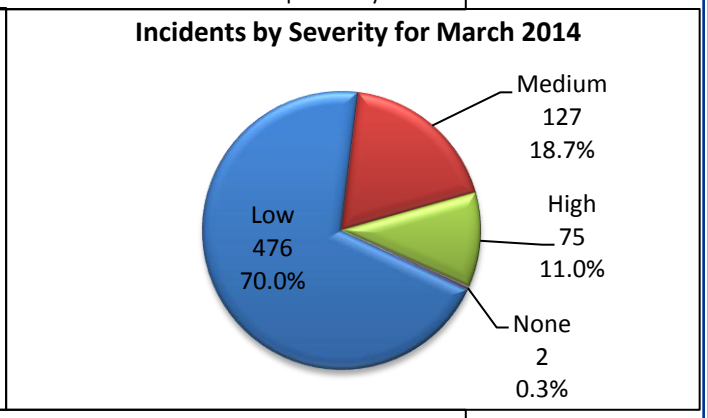
Acronyms

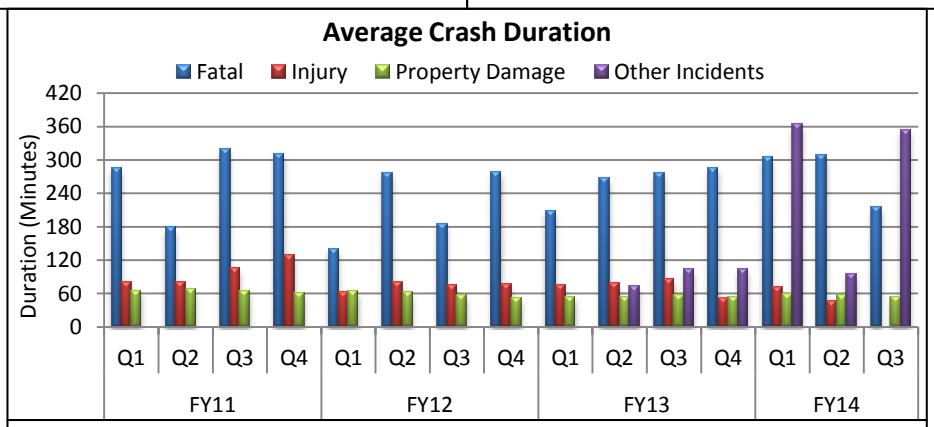
CCTV	Closed Circuit Television	I2TMS	Integrated Interagency Traffic Management System
RWIS	Road-Weather Information System	TOC	Traffic Operations Center
DPS	Department of Public Safety	VMS	Variable Message Sign
TMS	Traffic Monitoring Station	ITS	Intelligent Transportation System
HAR	Highway Advisory Radio	TMD	Traffic Management Division

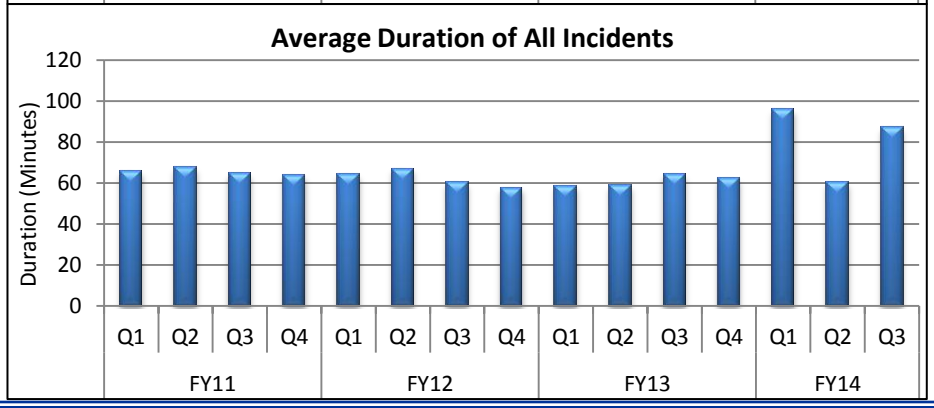
An incident response occurs each time an incident is recorded in the ATMS system. These can be of several types, including crash, construction, debris, stall, congestion, or other. Crashes are separated into three subcategories: property damage, personal injury, and fatal. Each time an incident is created, information is sent to the 511 system, the website, and to the public through email alerts. An incident remains active until it has been completely cleared from the roadway.

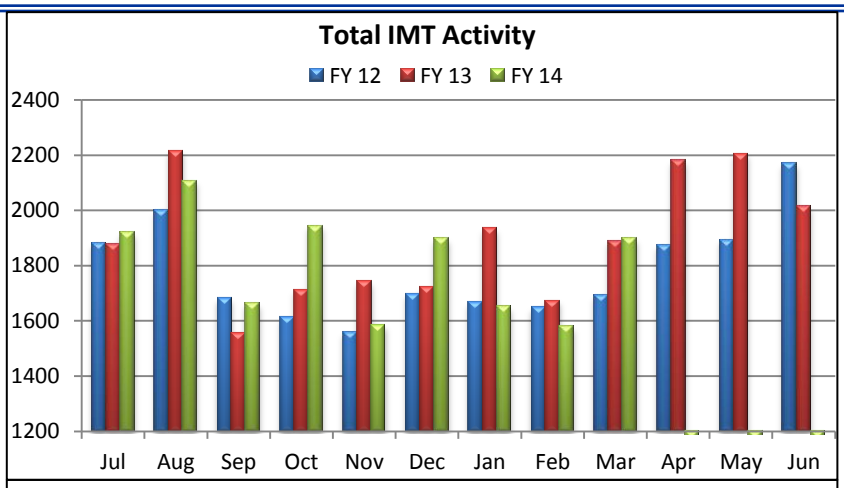


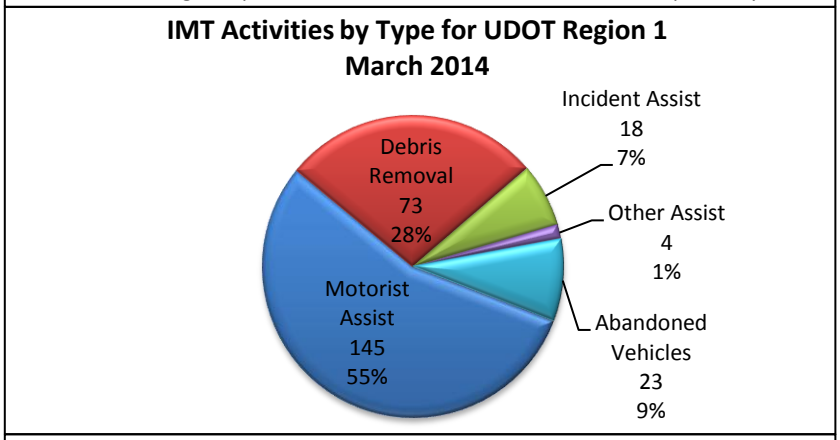


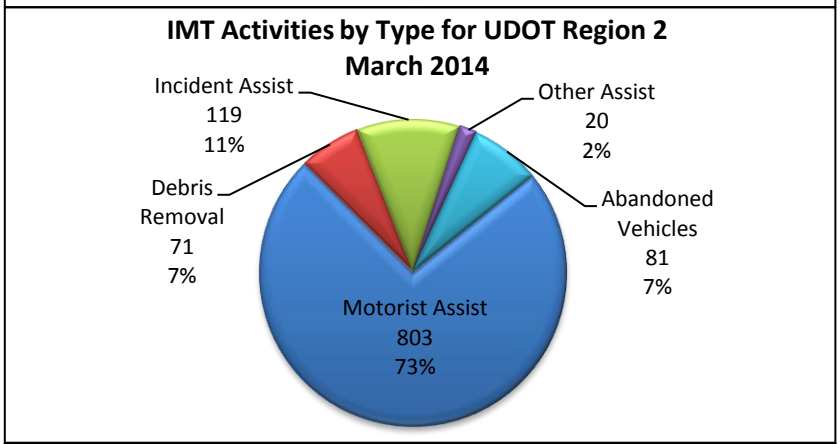


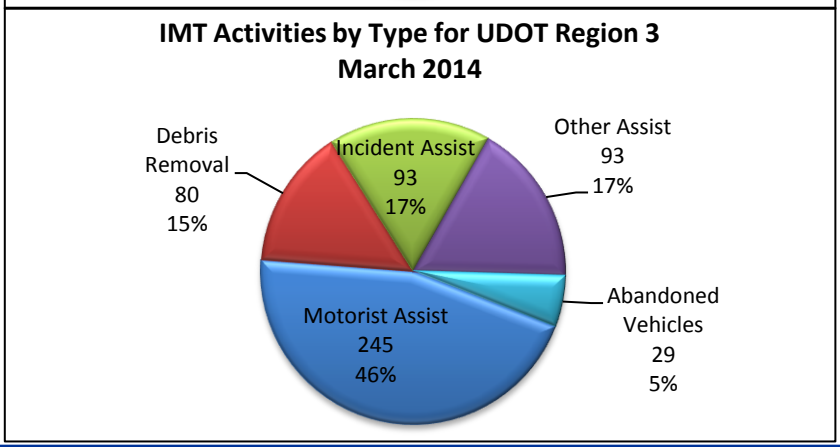





Total IMT Activity
FY 12
FY 13
FY 14
2400
2200
2000
1800
1600
1400
1200
Jul
Aug
Sep
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
Jun


IMT Activities by Type for UDOT Region 1
March 2014
Incident Assist
18
7%
Other Assist
4
1%
Abandoned
Vehicles
23
9%
Motorist
Assist
145
55%
Debris
Removal
73
28%


IMT Activities by Type for UDOT Region 2
March 2014
Incident Assist
119
11%
Other Assist
20
2%
Debris
Removal
71
7%
Abandoned
Vehicles
81
7%
Motorist Assist
803
73%

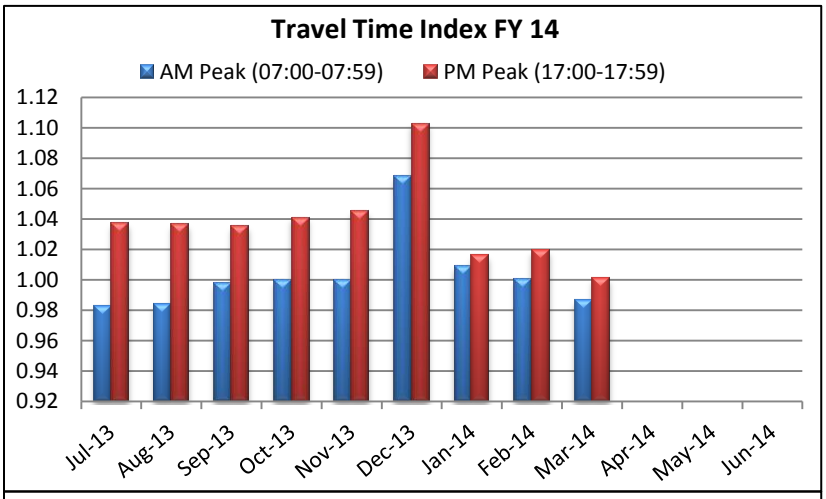

IMT Activities by Type for UDOT Region 3
March 2014
Debris
Removal
80
15%
Incident Assist
93
17%
Other Assist
93
17%
Abandoned
Vehicles
29
5%
Motorist Assist
245
46%

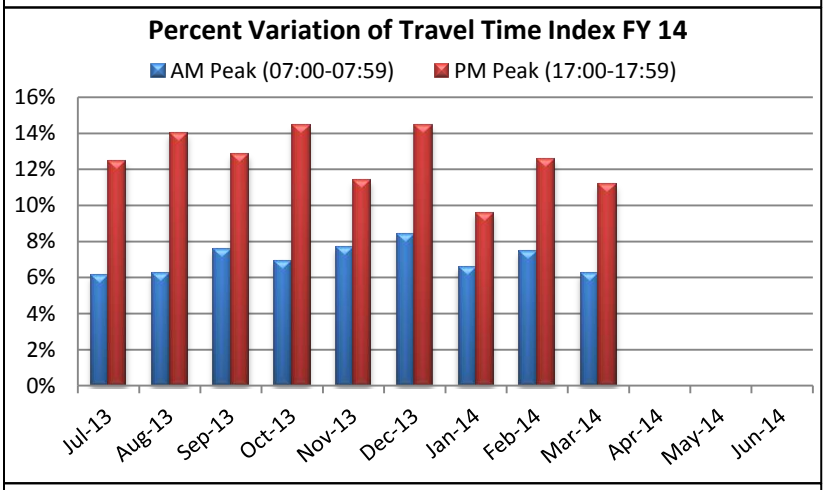
Freeway flow measures are taken from the Traffic Monitoring Stations (TMS) located throughout the Wasatch Front. As more TMS sites are installed throughout the state, they will be included in these performance measures.

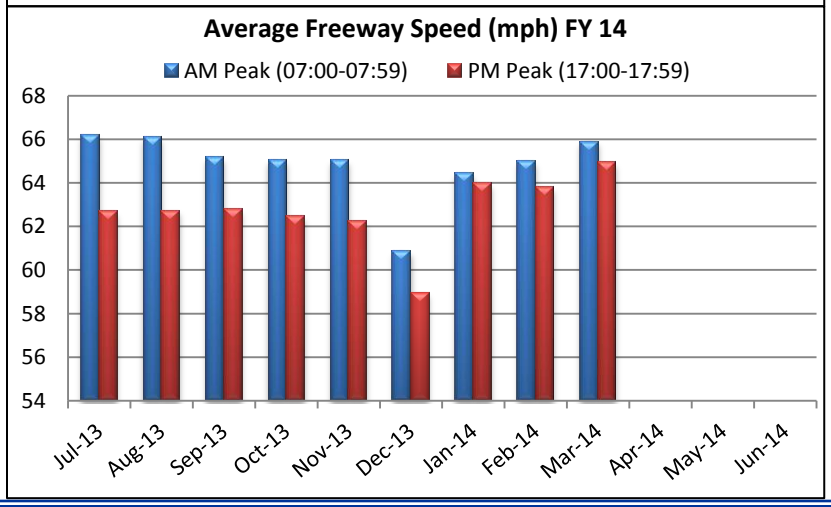
Travel Time Index: This measure of mobility is based on freeway speeds and is weighted by segment lengths and by the traffic volume. A value of 1.0 represents free-flow speeds. A value of 1.12 indicates that the average vehicle trip takes 12% longer than if that were the only vehicle on the freeway.

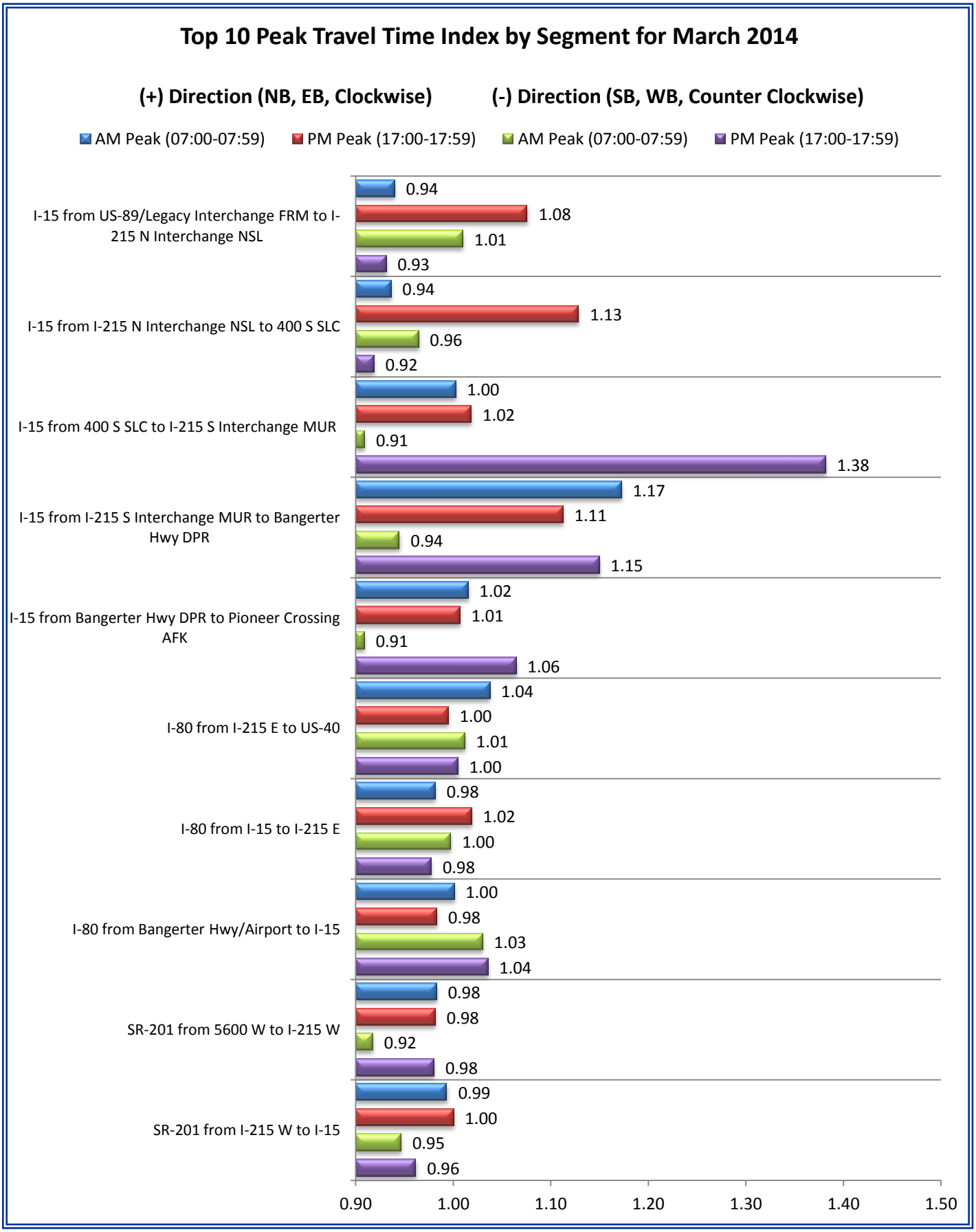
Percent Variation of Travel Time Index: The percent variation in the Travel Time Index is a measure of how much the Travel Time Index changes from day-to-day.

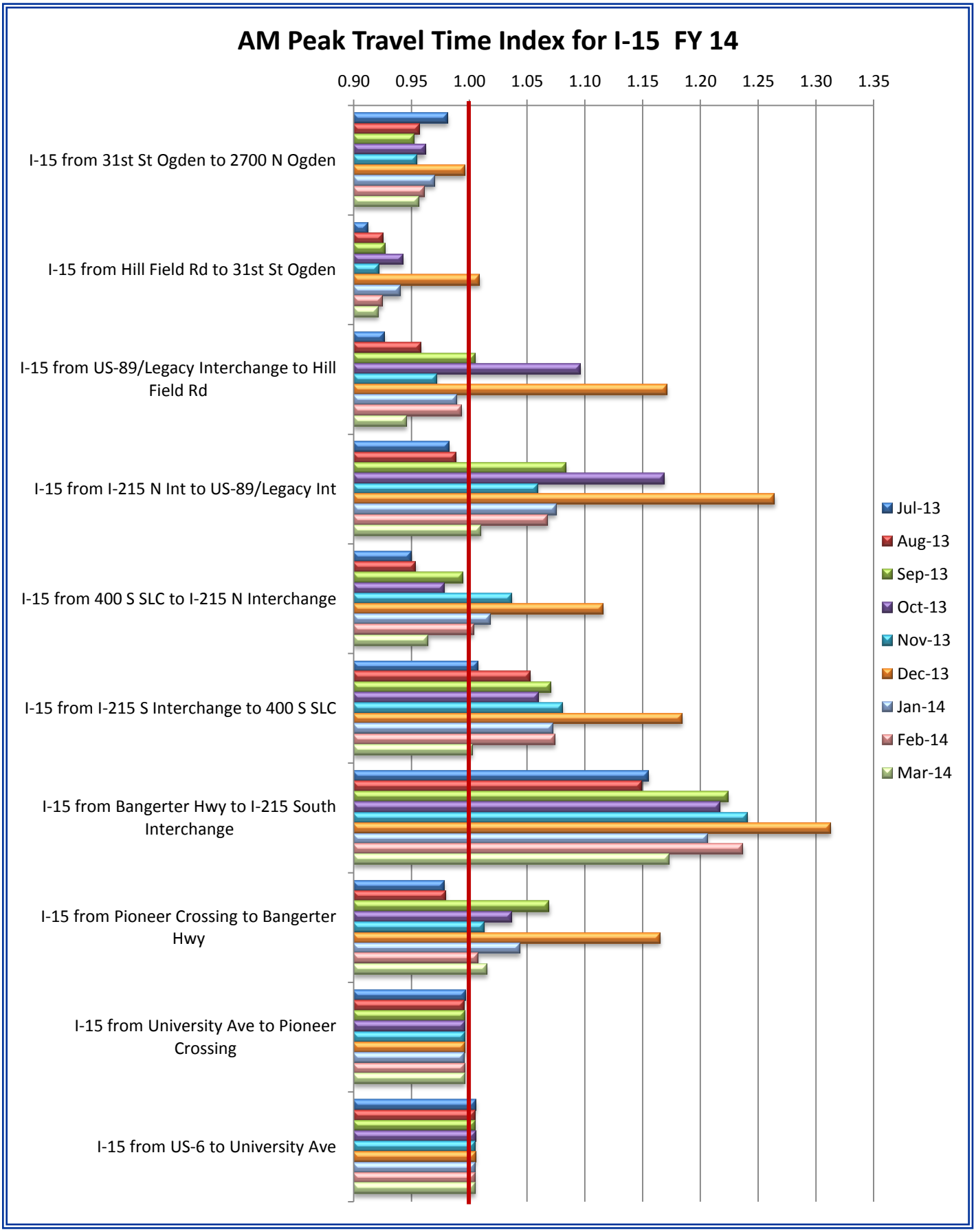
Average Freeway Speed: The freeway speed is weighted by volume.

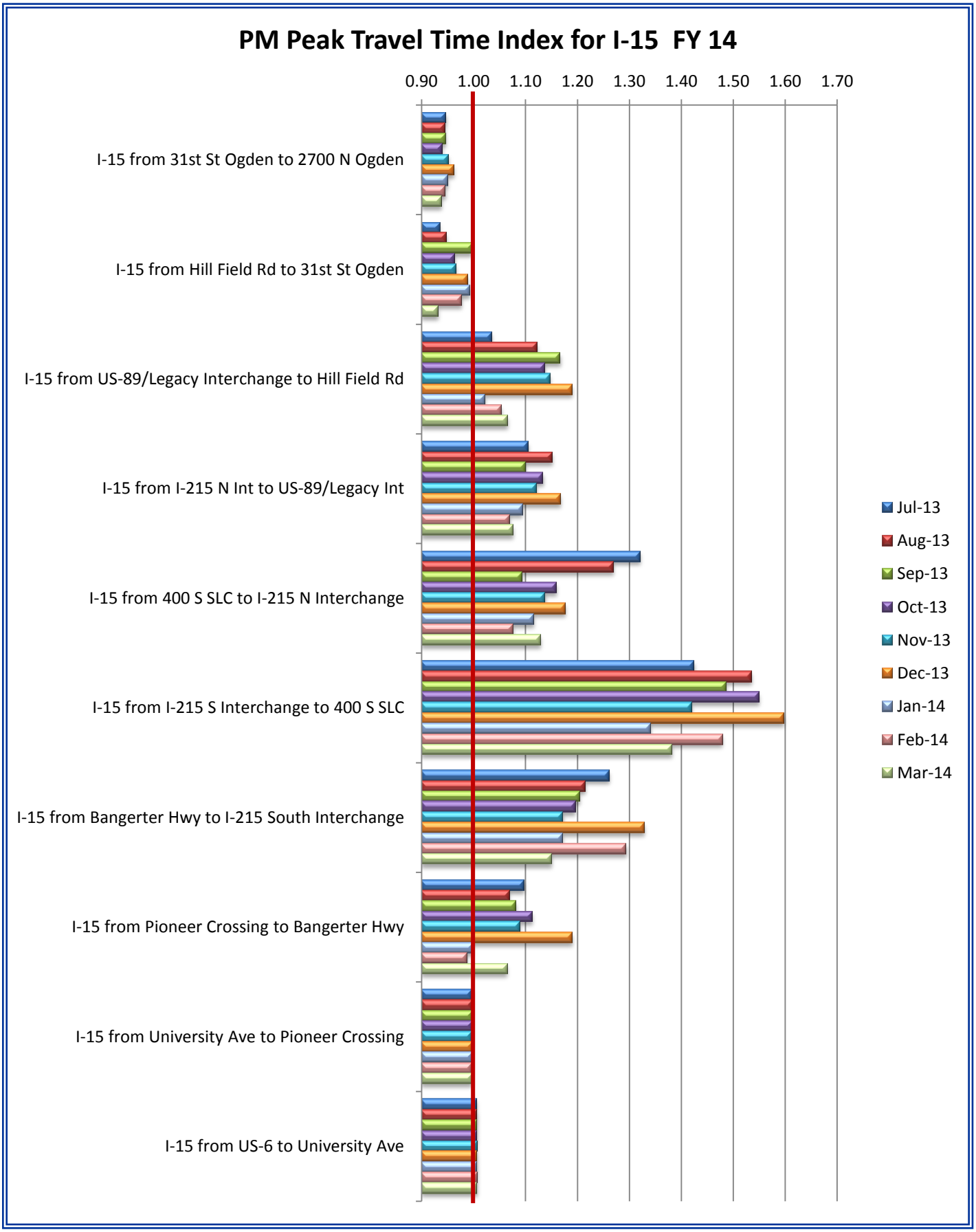


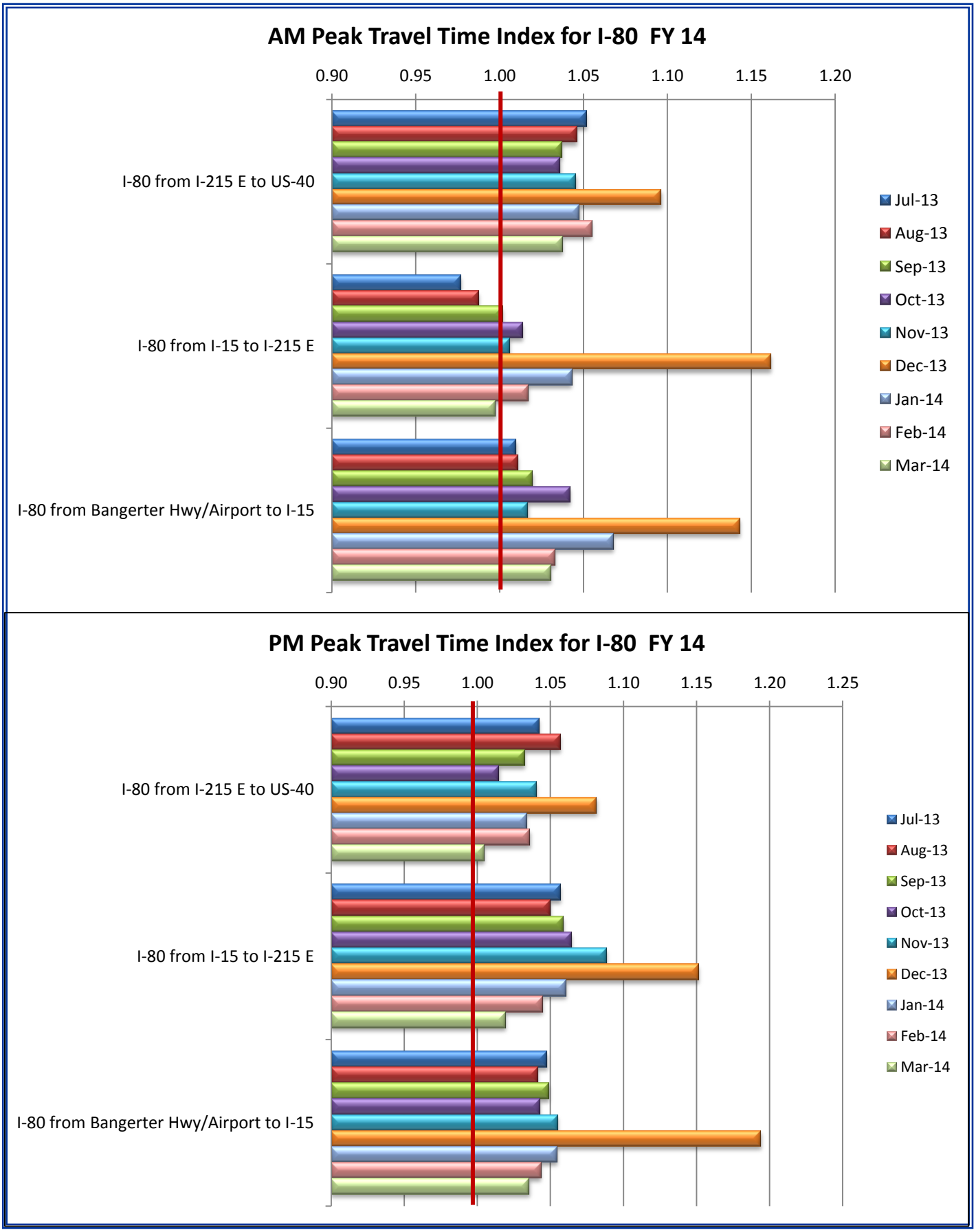


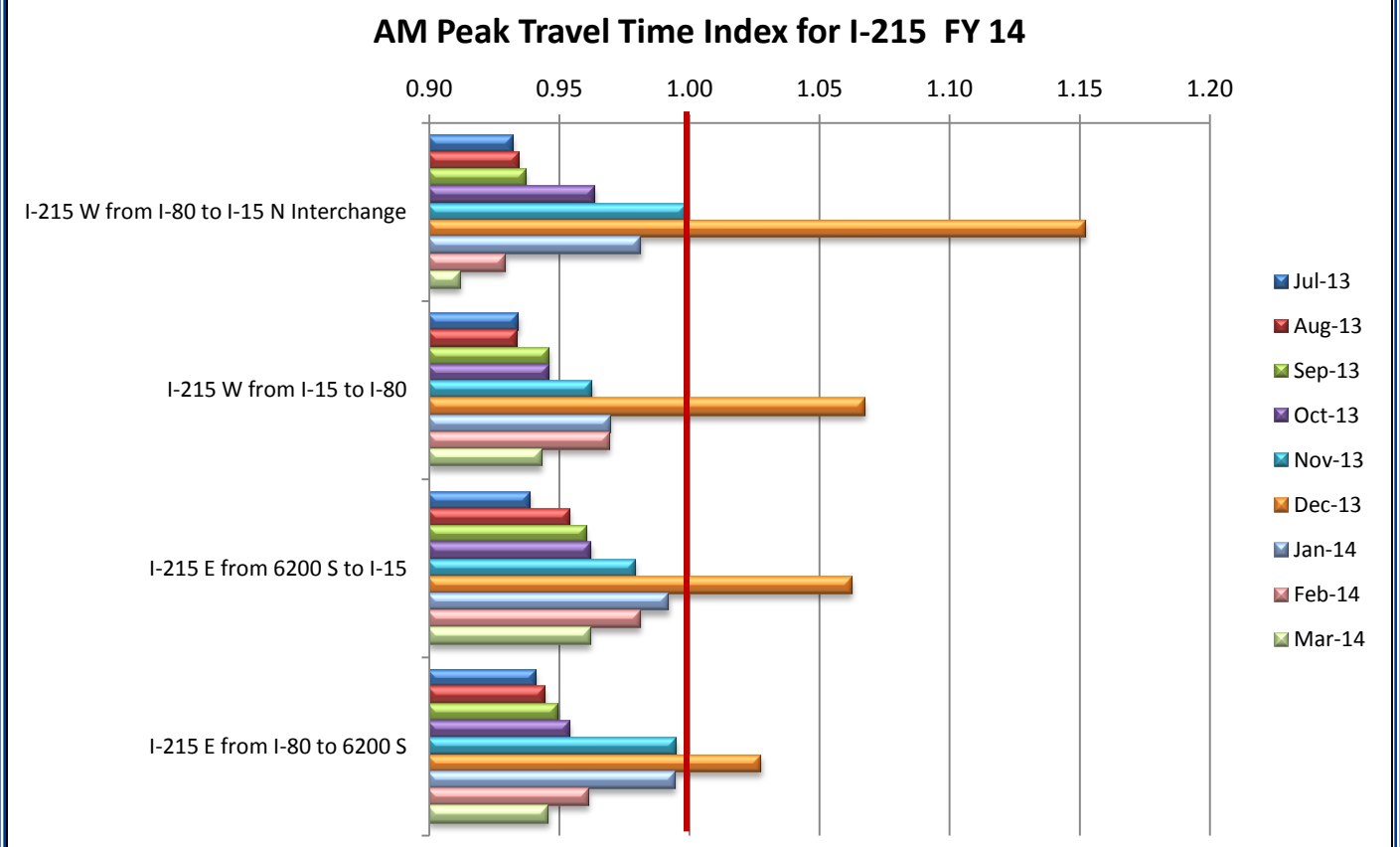


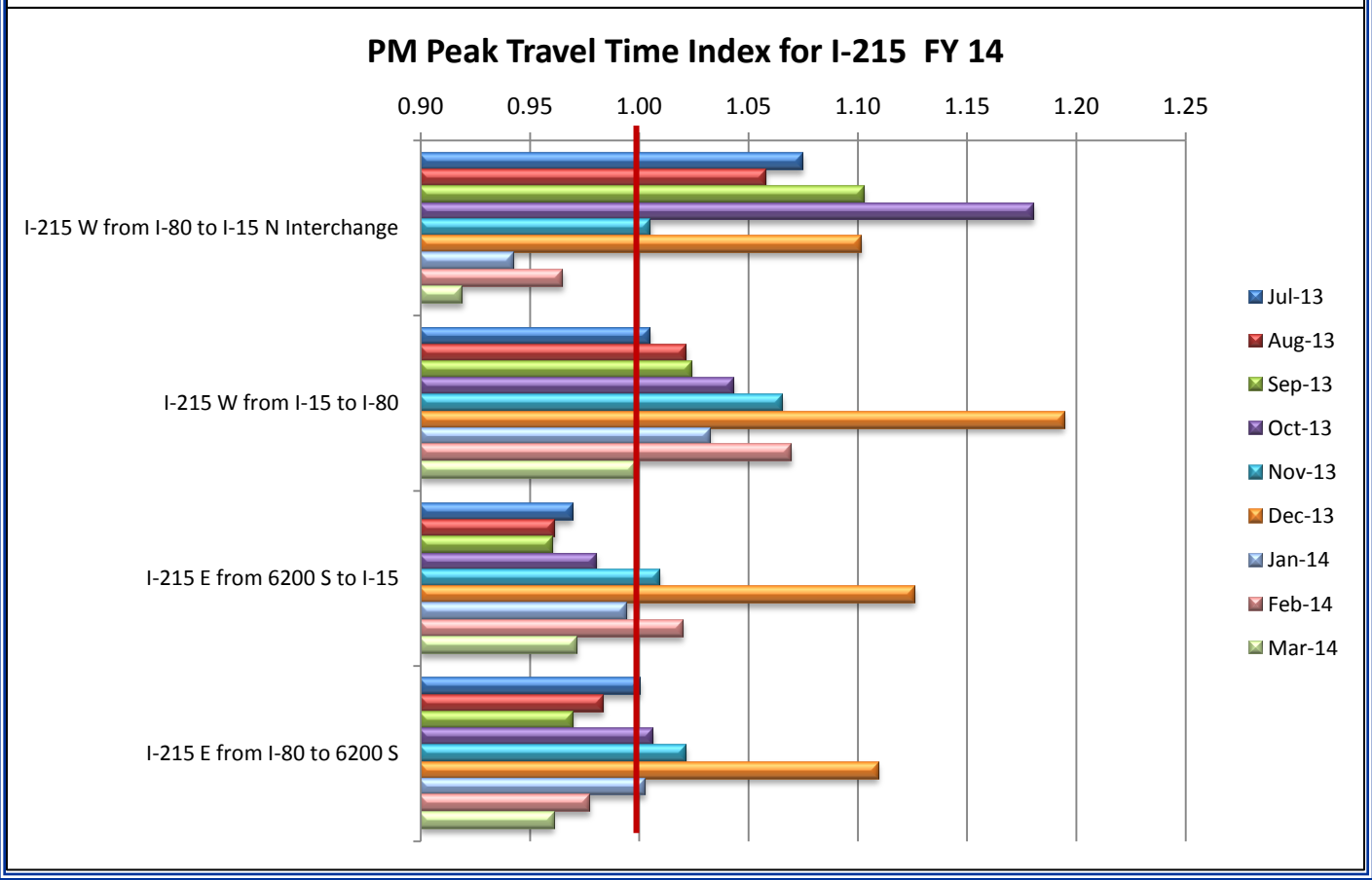

Top 10 Peak Travel Time Index by Segment for March 2014
(+) Direction (NB, EB, Clockwise)
(-) Direction (SB, WB, Counter Clockwise)
AM Peak (07:00-07:59)
PM Peak (17:00-17:59)
AM Peak (07:00-07:59)
PM Peak (17:00-17:59)
I-15 from US-89/Legacy Interchange FRM to I-215 N Interchange NSL
0.94
1.08
1.01
0.93
I-15 from I-215 N Interchange NSL to 400 S SLC
0.94
1.13
0.96
0.92
I-15 from 400 S SLC to I-215 S Interchange MUR
1.00
1.02
0.91
1.38
I-15 from I-215 S Interchange MUR to Bangerter Hwy DPR
1.17
1.11
0.94
1.15
I-15 from Bangerter Hwy DPR to Pioneer Crossing AFK
1.02
1.01
0.91
1.06
I-80 from I-215 E to US-40
1.04
1.00
1.01
1.00
I-80 from I-15 to I-215 E
0.98
1.02
1.00
0.98
I-80 from Bangerter Hwy/Airport to I-15
1.00
0.98
1.03
1.04
SR-201 from 5600 W to I-215 W
0.98
0.98
0.92
0.98
SR-201 from I-215 W to I-15
0.99
1.00
0.95
0.96
0.90
1.00
1.10
1.20
1.30
1.40
1.50

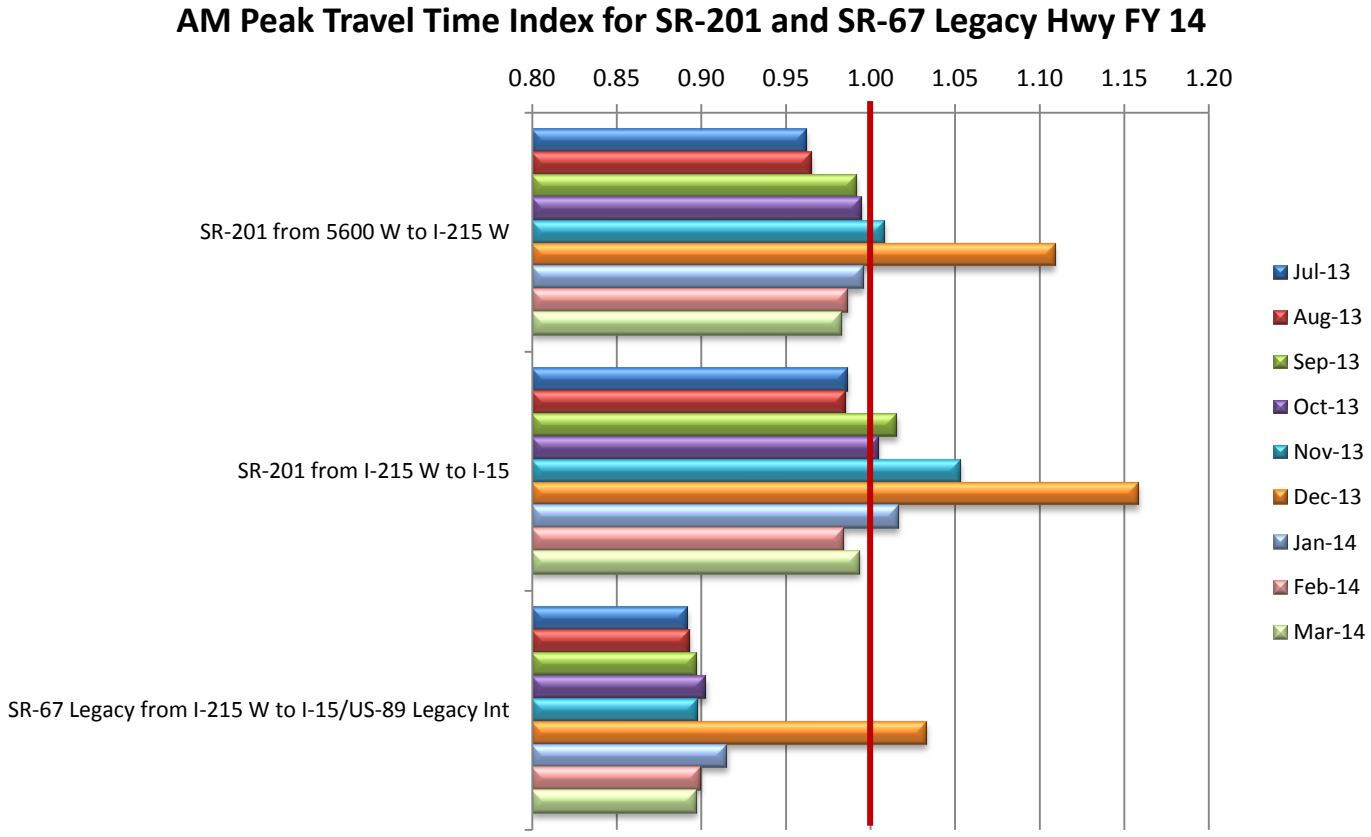

AM Peak Travel Time Index for I-15 FY 14
0.90
0.95
1.00
1.05
1.10
1.15
1.20
1.25
1.30
1.35
I-15 from 31st St Ogden to 2700 N Ogden
I-15 from Hill Field Rd to 31st St Ogden
I-15 from US-89/Legacy Interchange to Hill Field Rd
I-15 from I-215 N Int to US-89/Legacy Int
I-15 from 400 S SLC to I-215 N Interchange
I-15 from I-215 S Interchange to 400 S SLC
I-15 from Bangerter Hwy to I-215 South Interchange
I-15 from Pioneer Crossing to Bangerter Hwy
I-15 from University Ave to Pioneer Crossing
I-15 from US-6 to University Ave
Jul-13
Aug-13
Sep-13
Oct-13
Nov-13
Dec-13
Jan-14
Feb-14
Mar-14

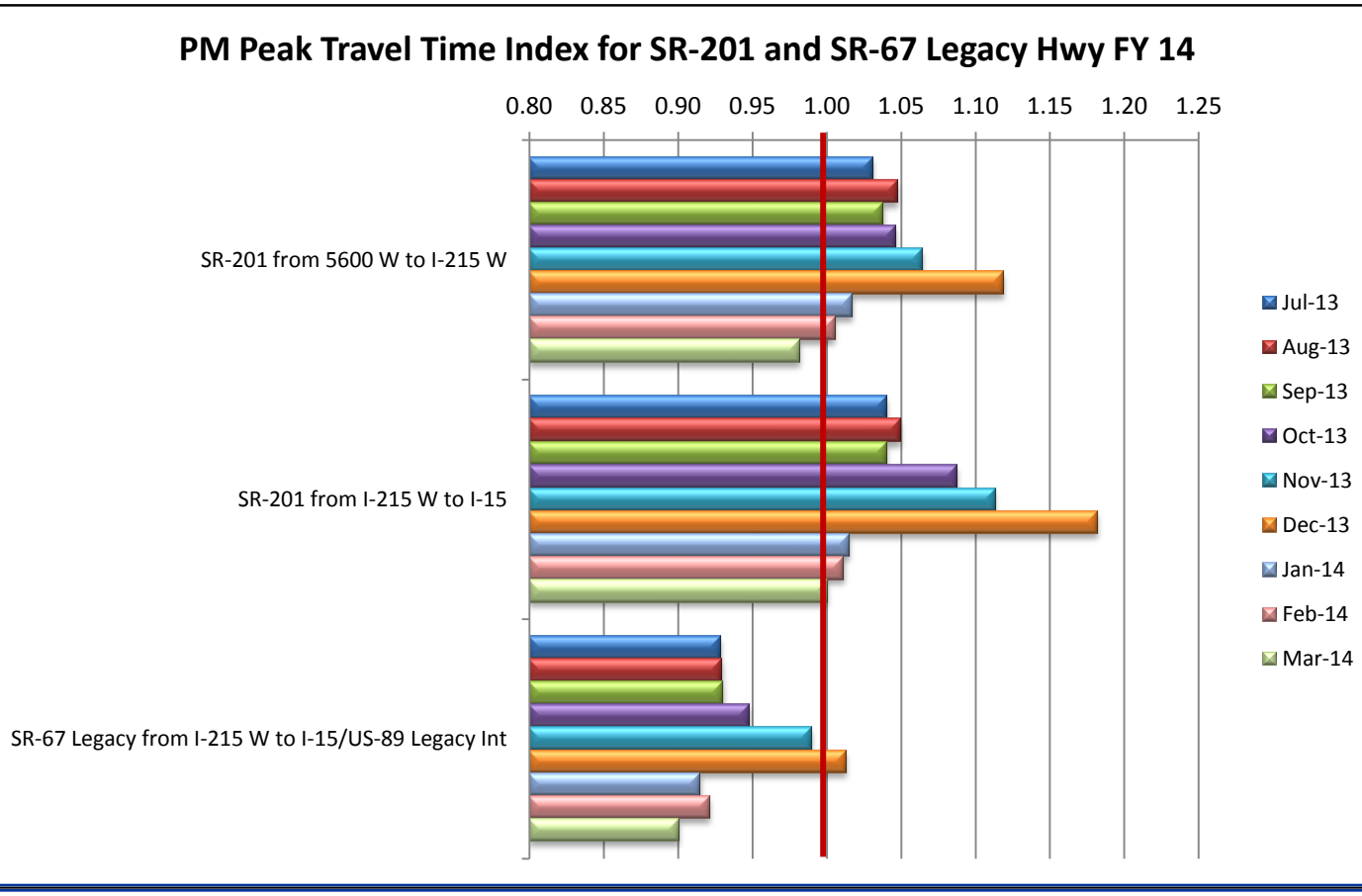

PM Peak Travel Time Index for I-15 FY 14
0.90
1.00
1.10
1.20
1.30
1.40
1.50
1.60
1.70
I-15 from 31st St Ogden to 2700 N Ogden
I-15 from Hill Field Rd to 31st St Ogden
I-15 from US-89/Legacy Interchange to Hill Field Rd
I-15 from I-215 N Int to US-89/Legacy Int
I-15 from 400 S SLC to I-215 N Interchange
I-15 from I-215 S Interchange to 400 S SLC
I-15 from Bangerter Hwy to I-215 South Interchange
I-15 from Pioneer Crossing to Bangerter Hwy
I-15 from University Ave to Pioneer Crossing
I-15 from US-6 to University Ave
Jul-13
Aug-13
Sep-13
Oct-13
Nov-13
Dec-13
Jan-14
Feb-14
Mar-14


AM Peak Travel Time Index for I-80 FY 14
0.90
0.95
1.00
1.05
1.10
1.15
1.20
I-80 from I-215 E to US-40
I-80 from I-15 to I-215 E
I-80 from Bangerter Hwy/Airport to I-15
Jul-13
Aug-13
Sep-13
Oct-13
Nov-13
Dec-13
Jan-14
Feb-14
Mar-14
PM Peak Travel Time Index for I-80 FY 14
0.90
0.95
1.00
1.05
1.10
1.15
1.20
1.25
I-80 from I-215 E to US-40
I-80 from I-15 to I-215 E
I-80 from Bangerter Hwy/Airport to I-15
Jul-13
Aug-13
Sep-13
Oct-13
Nov-13
Dec-13
Jan-14
Feb-14
Mar-14


AM Peak Travel Time Index for I-215 FY 14
0.90
0.95
1.00
1.05
1.10
1.15
1.20
I-215 W from I-80 to I-15 N Interchange
I-215 W from I-15 to I-80
I-215 E from 6200 S to I-15
I-215 E from I-80 to 6200 S
Jul-13
Aug-13
Sep-13
Oct-13
Nov-13
Dec-13
Jan-14
Feb-14
Mar-14


PM Peak Travel Time Index for I-215 FY 14
0.90
0.95
1.00
1.05
1.10
1.15
1.20
1.25
I-215 W from I-80 to I-15 N Interchange
I-215 W from I-15 to I-80
I-215 E from 6200 S to I-15
I-215 E from I-80 to 6200 S
Jul-13
Aug-13
Sep-13
Oct-13
Nov-13
Dec-13
Jan-14
Feb-14
Mar-14

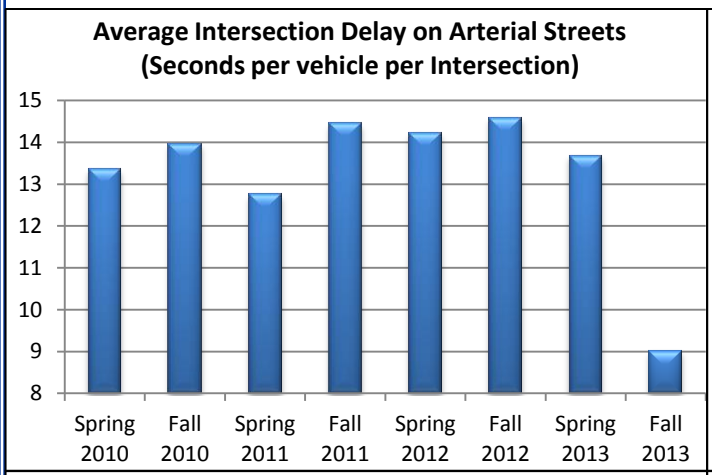

AM Peak Travel Time Index for SR-201 and SR-67 Legacy Hwy FY 14
0.80
0.85
0.90
0.95
1.00
1.05
1.10
1.15
1.20
SR-201 from 5600 W to I-215 W
SR-201 from I-215 W to I-15
SR-67 Legacy from I-215 W to I-15/US-89 Legacy Int
Jul-13
Aug-13
Sep-13
Oct-13
Nov-13
Dec-13
Jan-14
Feb-14
Mar-14

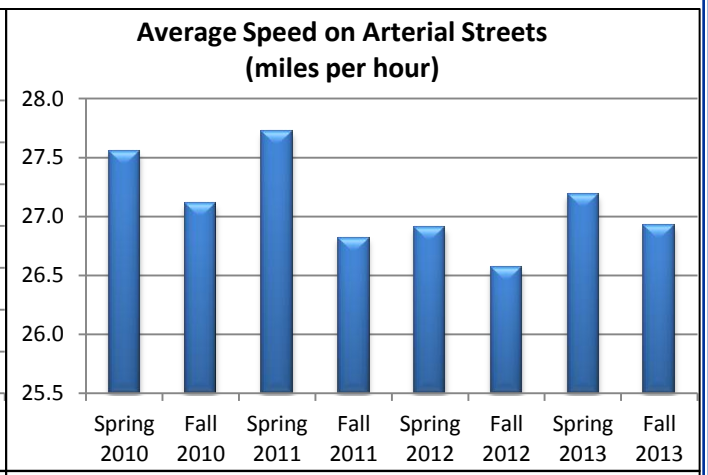

PM Peak Travel Time Index for SR-201 and SR-67 Legacy Hwy FY 14
0.80
0.85
0.90
0.95
1.00
1.05
1.10
1.15
1.20
1.25
SR-201 from 5600 W to I-215 W
SR-201 from I-215 W to I-15
SR-67 Legacy from I-215 W to I-15/US-89 Legacy Int
Jul-13
Aug-13
Sep-13
Oct-13
Nov-13
Dec-13
Jan-14
Feb-14
Mar-14

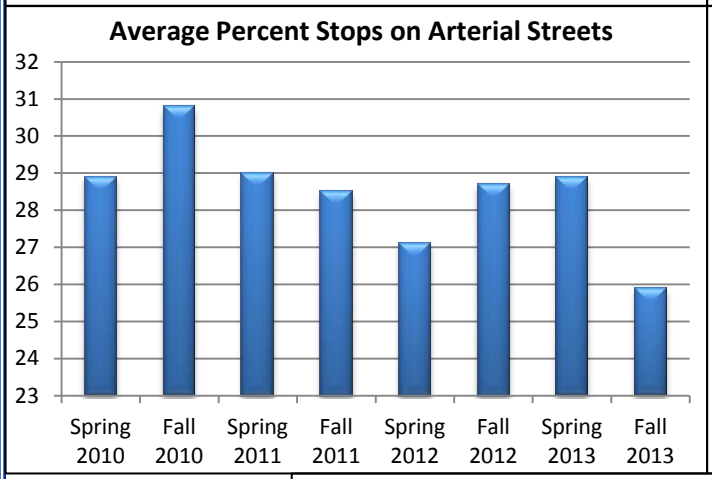
Surface Street Traffic Level of Service

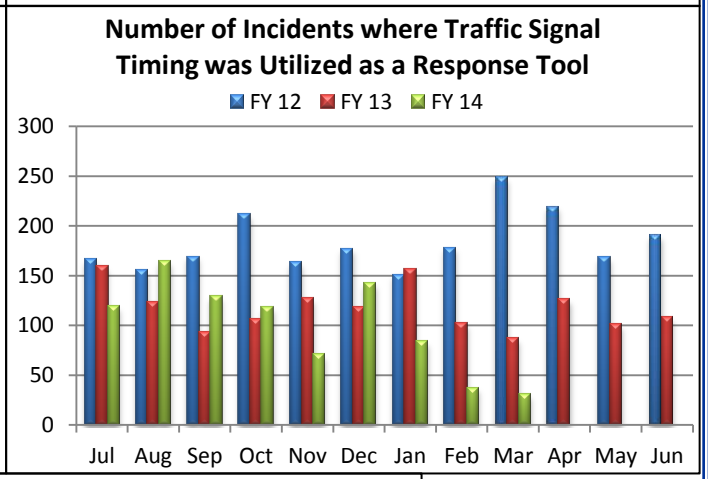
The surface street traffic statistics are generated through a series of Travel Time measurements. These are conducted using a special equipped vehicle which measures the average travel time, the average percent of intersections at which a vehicle must stop, the average time stopped at an intersection, and the average speed. The Traffic Systems Section gathers these measurements from Regions 1, 2, 3, and 4 twice each year. The chart in the lower right hand corner shows the number of incidents where traffic signal timing was modified in order to help traffic flow around closed lanes, or to help relieve excessive congestion.

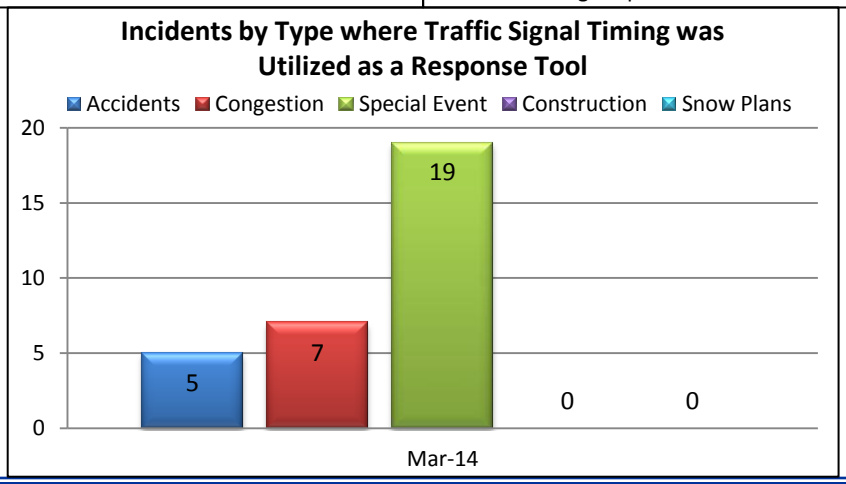
The following charts illustrate data gathered during semi-annual timing runs.

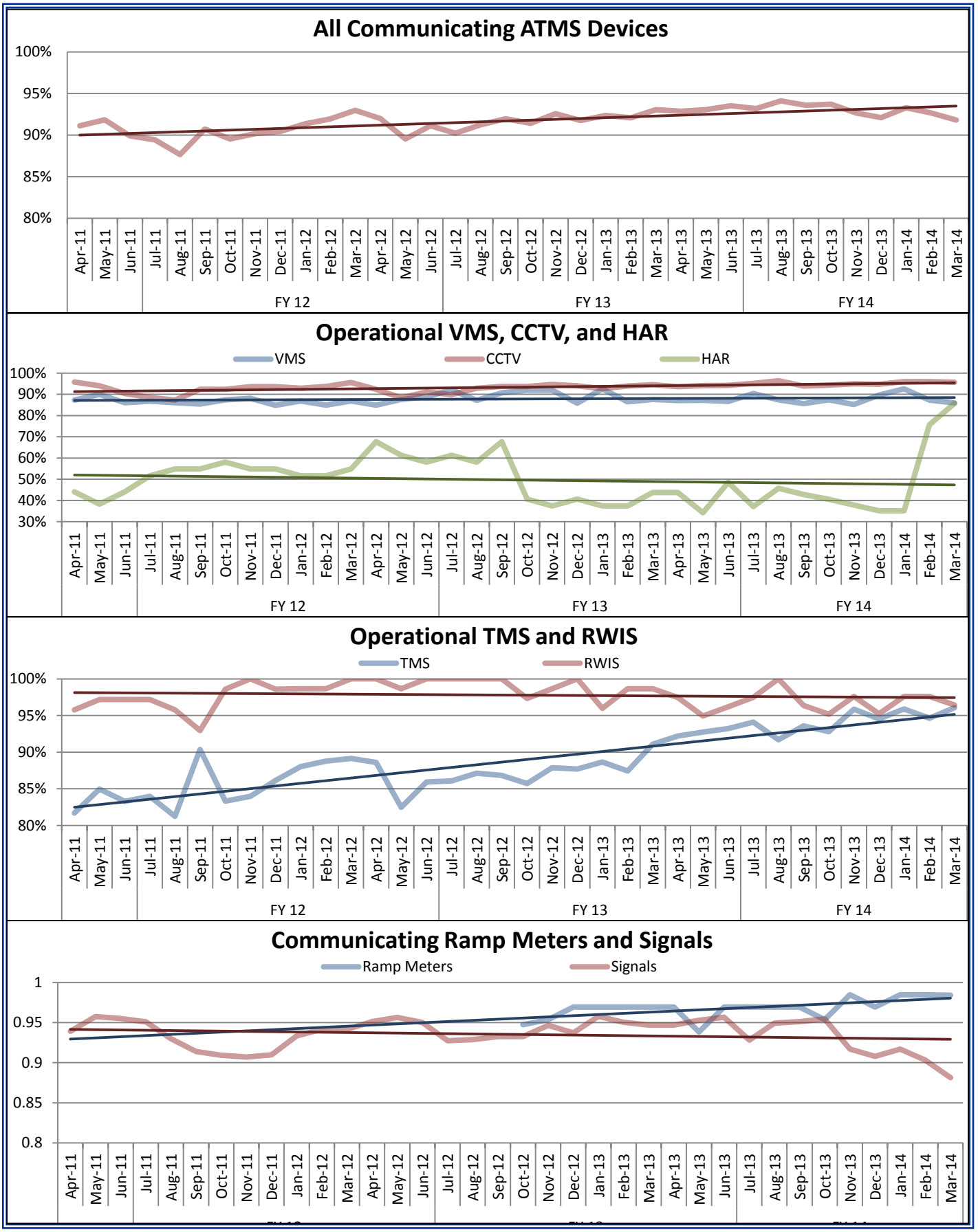


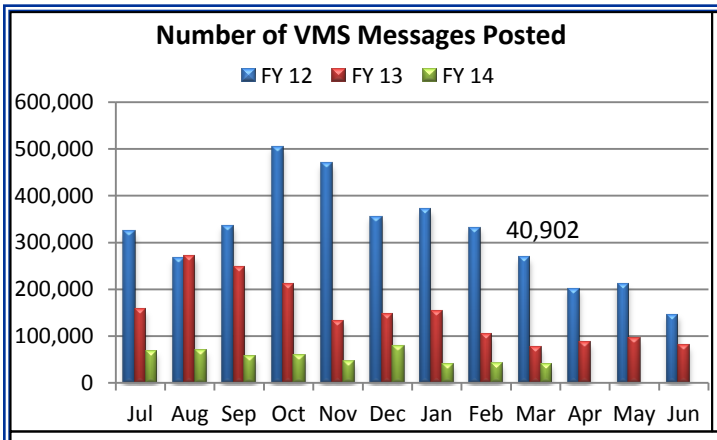


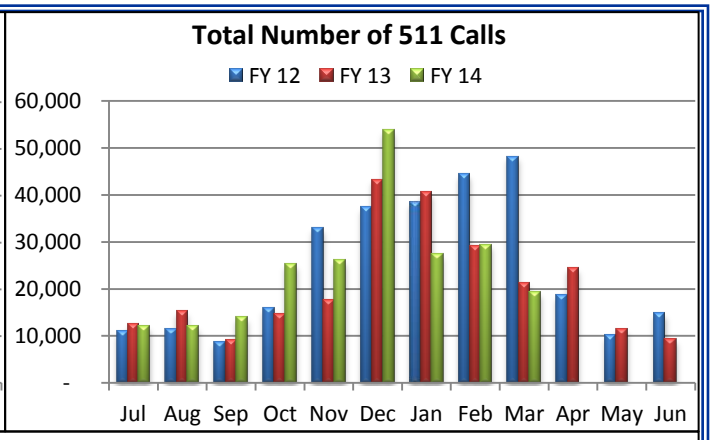


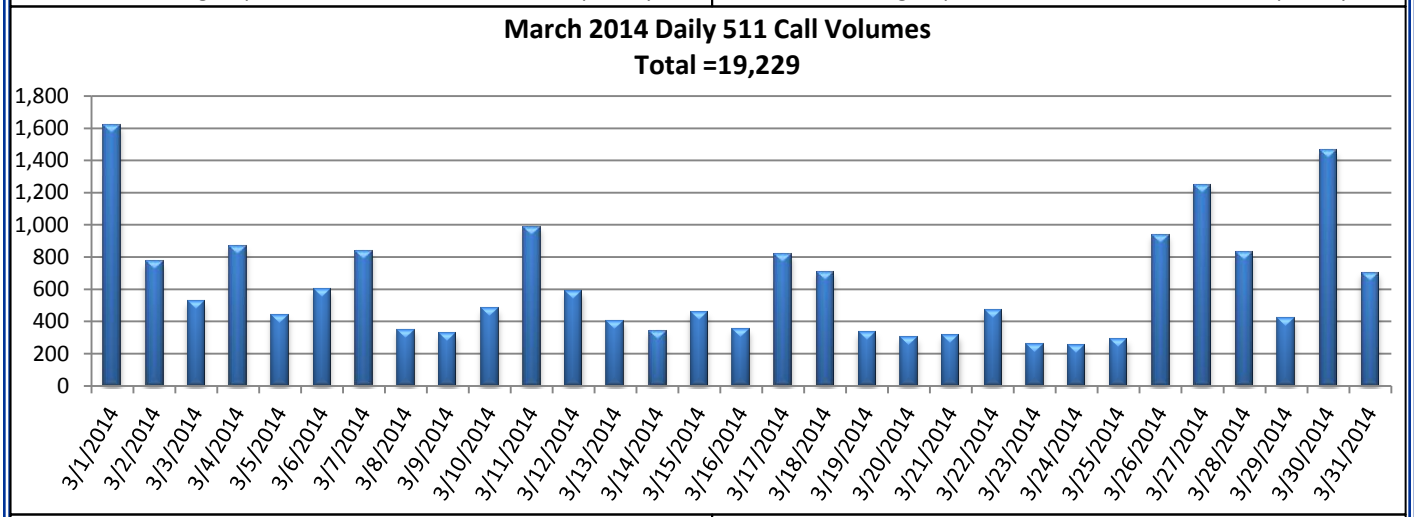


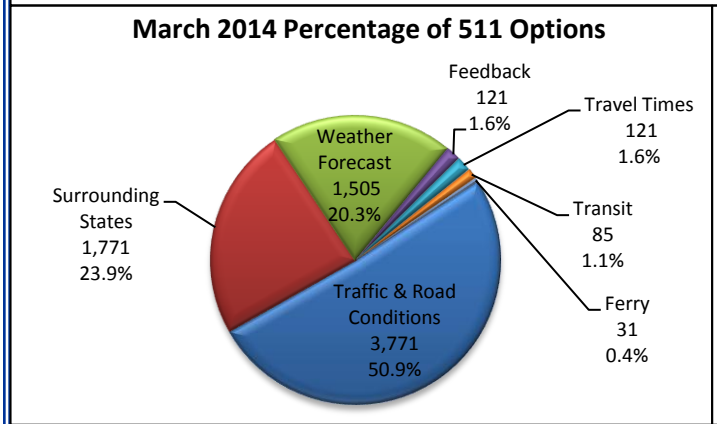


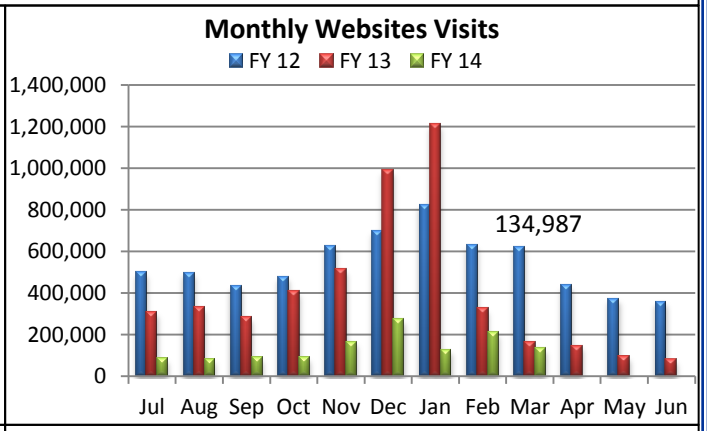

All Communicating ATMS Devices
100%
95%
90%
85%
80%
Apr-11 May-11 Jun-11 Jul-11 Aug-11 Sep-11 Oct-11 Nov-11 Dec-11 Jan-12 Feb-12 Mar-12 Apr-12 May-12 Jun-12 Jul-12 Aug-12 Sep-12 Oct-12 Nov-12 Dec-12 Jan-13 Feb-13 Mar-13 Apr-13 May-13 Jun-13 Jul-13 Aug-13 Sep-13 Oct-13 Nov-13 Dec-13 Jan-14 Feb-14 Mar-14
FY 12
FY 13
FY 14
Operational VMS, CCTV, and HAR
VMS
CCTV
HAR
100%
90%
80%
70%
60%
50%
40%
30%
Apr-11 May-11 Jun-11 Jul-11 Aug-11 Sep-11 Oct-11 Nov-11 Dec-11 Jan-12 Feb-12 Mar-12 Apr-12 May-12 Jun-12 Jul-12 Aug-12 Sep-12 Oct-12 Nov-12 Dec-12 Jan-13 Feb-13 Mar-13 Apr-13 May-13 Jun-13 Jul-13 Aug-13 Sep-13 Oct-13 Nov-13 Dec-13 Jan-14 Feb-14 Mar-14
FY 12
FY 13
FY 14
Operational TMS and RWIS
TMS
RWIS
100%
95%
90%
85%
80%
Apr-11 May-11 Jun-11 Jul-11 Aug-11 Sep-11 Oct-11 Nov-11 Dec-11 Jan-12 Feb-12 Mar-12 Apr-12 May-12 Jun-12 Jul-12 Aug-12 Sep-12 Oct-12 Nov-12 Dec-12 Jan-13 Feb-13 Mar-13 Apr-13 May-13 Jun-13 Jul-13 Aug-13 Sep-13 Oct-13 Nov-13 Dec-13 Jan-14 Feb-14 Mar-14
FY 12
FY 13
FY 14
Communicating Ramp Meters and Signals
Ramp Meters
Signals
1
0.95
0.9
0.85
0.8
Apr-11 May-11 Jun-11 Jul-11 Aug-11 Sep-11 Oct-11 Nov-11 Dec-11 Jan-12 Feb-12 Mar-12 Apr-12 May-12 Jun-12 Jul-12 Aug-12 Sep-12 Oct-12 Nov-12 Dec-12 Jan-13 Feb-13 Mar-13 Apr-13 May-13 Jun-13 Jul-13 Aug-13 Sep-13 Oct-13 Nov-13 Dec-13 Jan-14 Feb-14 Mar-14

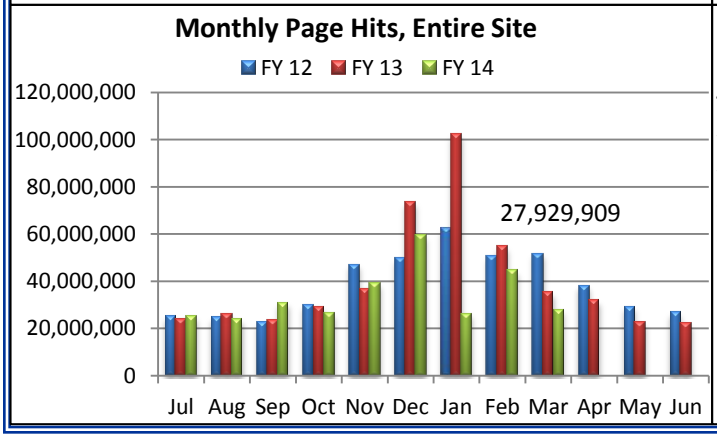

Number of VMS Messages Posted
FY 12 FY 13 FY 14
600,000
500,000
400,000
300,000
200,000
100,000
0
40,902
Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun

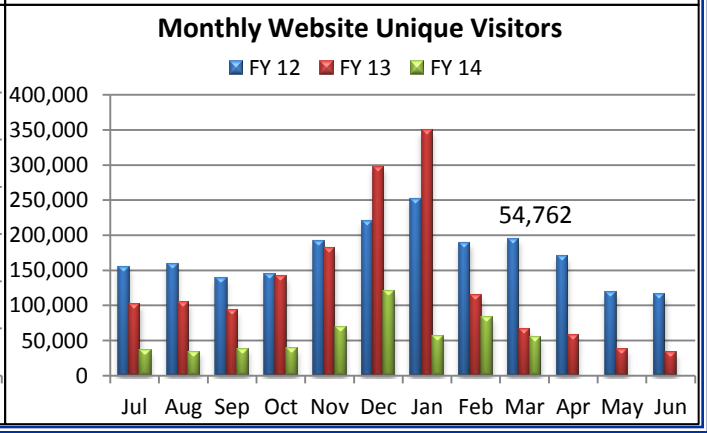

Total Number of 511 Calls
FY 12 FY 13 FY 14
60,000
50,000
40,000
30,000
20,000
10,000
-
Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun

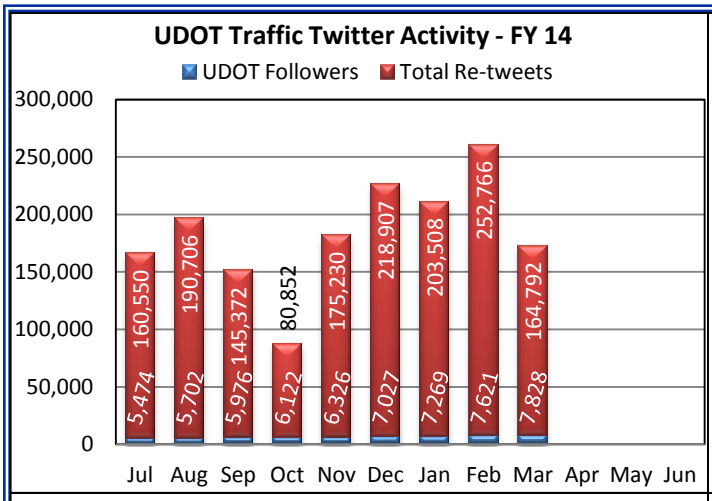

March 2014 Daily 511 Call Volumes
Total =19,229
1,800
1,600
1,400
1,200
1,000
800
600
400
200
0
3/1/2014 3/2/2014 3/3/2014 3/4/2014 3/5/2014 3/6/2014 3/7/2014 3/8/2014 3/9/2014 3/10/2014 3/11/2014 3/12/2014 3/13/2014 3/14/2014 3/15/2014 3/16/2014 3/17/2014 3/18/2014 3/19/2014 3/20/2014 3/21/2014 3/22/2014 3/23/2014 3/24/2014 3/25/2014 3/26/2014 3/27/2014 3/28/2014 3/29/2014 3/30/2014 3/31/2014

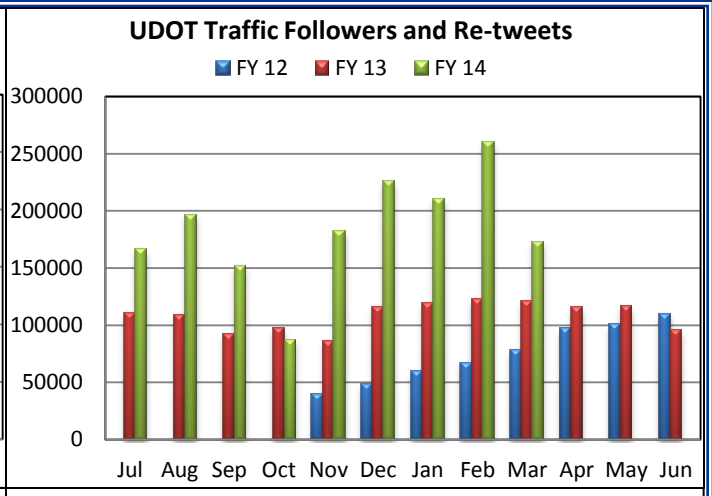

March 2014 Percentage of 511 Options
Feedback
121
1.6%
Travel Times
121
1.6%
Weather
Forecast
1,505
20.3%
Surrounding
States
1,771
23.9%
Transit
85
1.1%
Traffic & Road
Conditions
3,771
50.9%
Ferry
31
0.4%

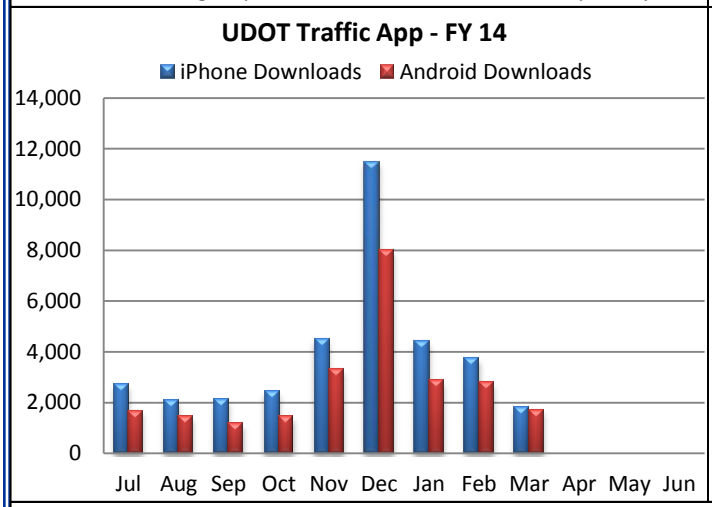

Monthly Websites Visits
FY 12 FY 13 FY 14
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
134,987
Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun

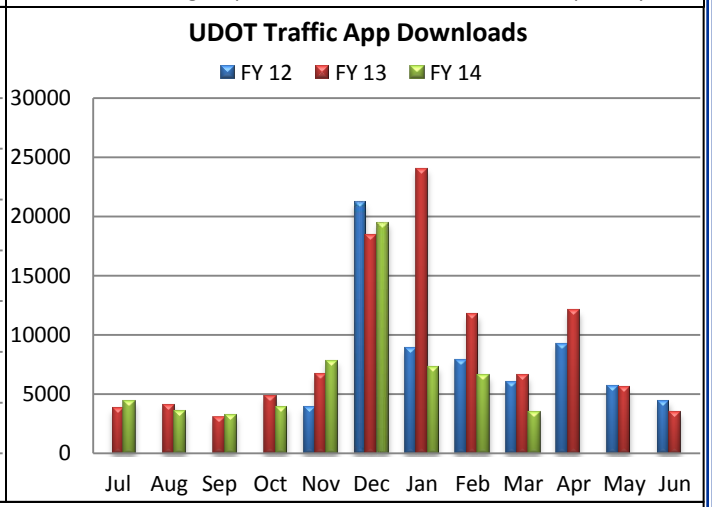

Monthly Page Hits, Entire Site
FY 12 FY 13 FY 14
120,000,000
100,000,000
80,000,000
60,000,000
40,000,000
20,000,000
0
27,929,909
Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun

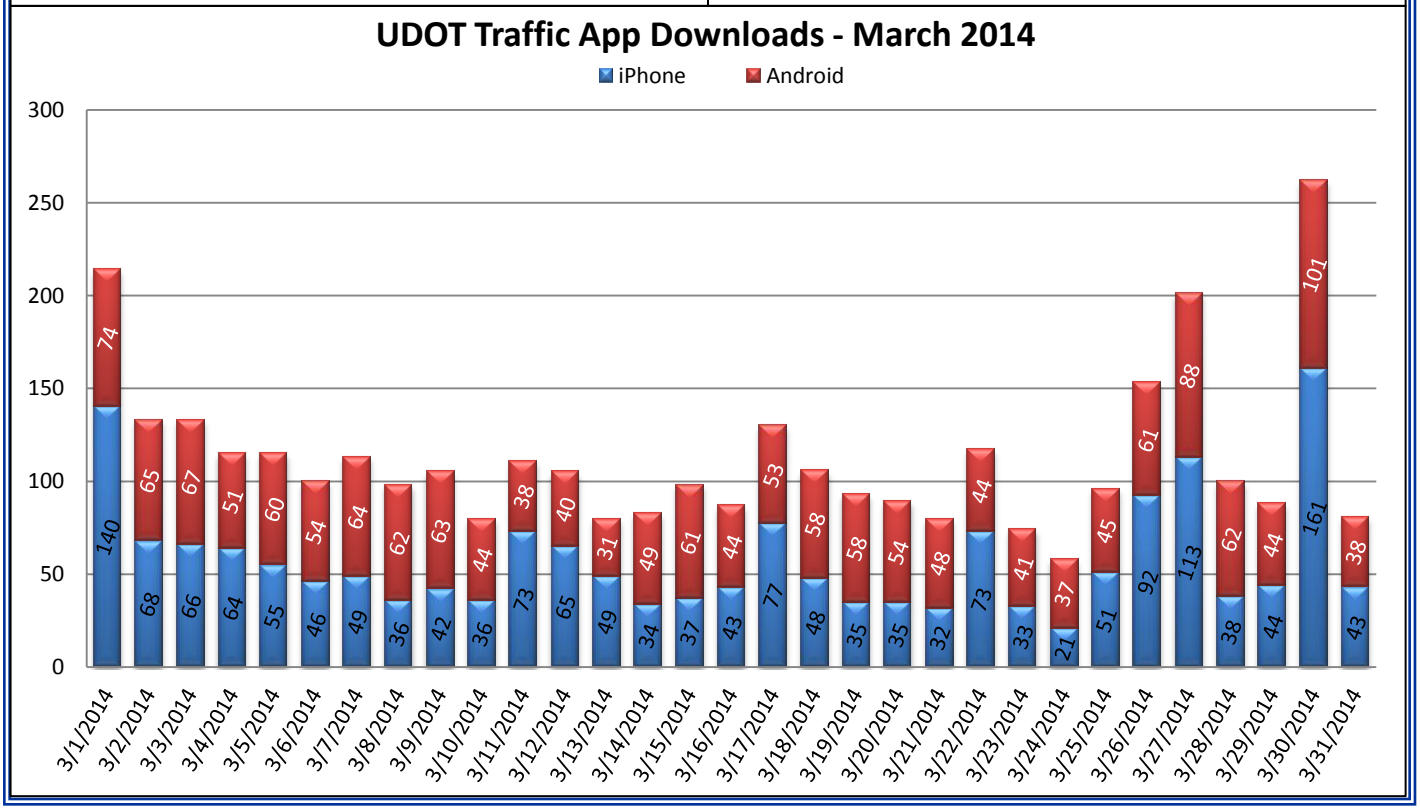

Monthly Website Unique Visitors
FY 12 FY 13 FY 14
400,000
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
54,762
Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun

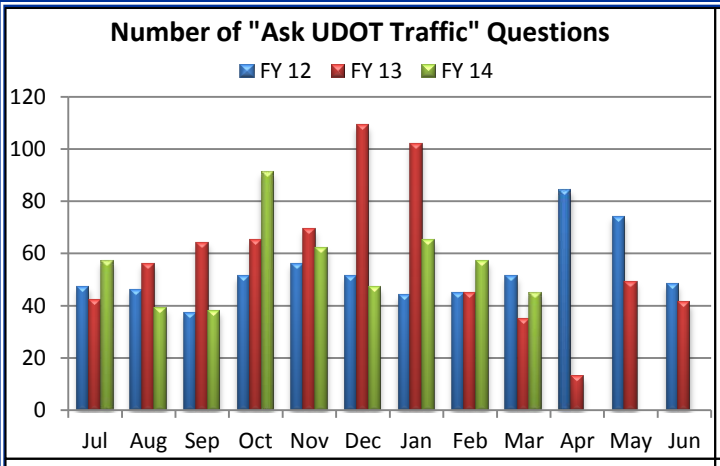

UDOT Traffic Twitter Activity - FY 14
UDOT Followers
Total Re-tweets
300,000
250,000
200,000
150,000
100,000
50,000
0
5,474
160,550
5,702
190,706
5,976
145,372
6,122
80,852
6,326
175,230
7,027
218,907
7,269
203,508
7,621
252,766
7,828
164,792
Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun

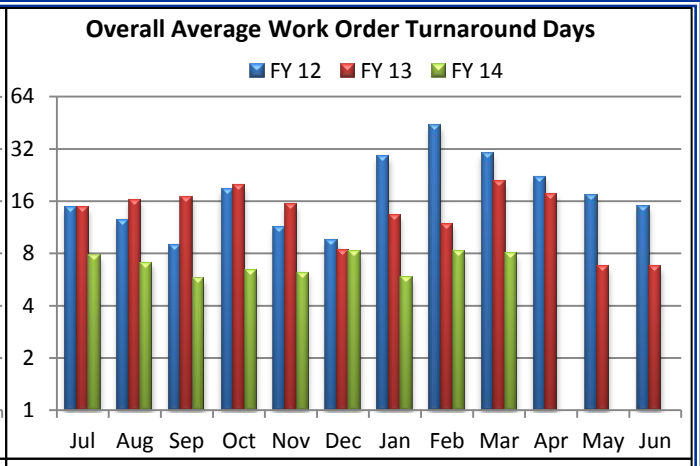

UDOT Traffic Followers and Re-tweets
FY 12
FY 13
FY 14
300000
250000
200000
150000
100000
50000
0
Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun

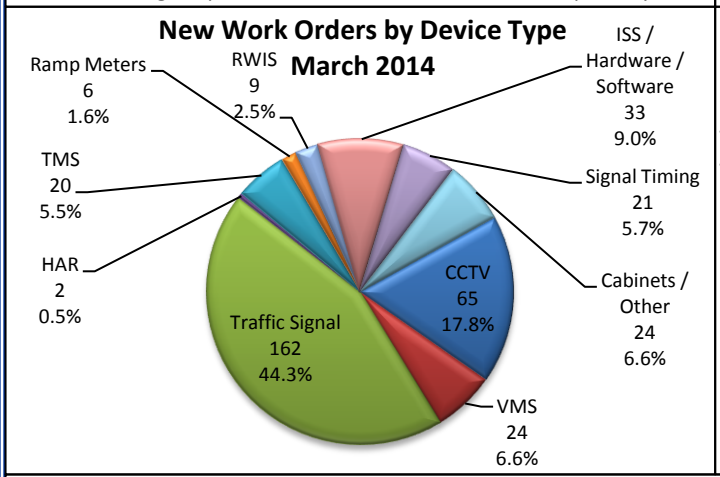

UDOT Traffic App - FY 14
iPhone Downloads
Android Downloads
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun

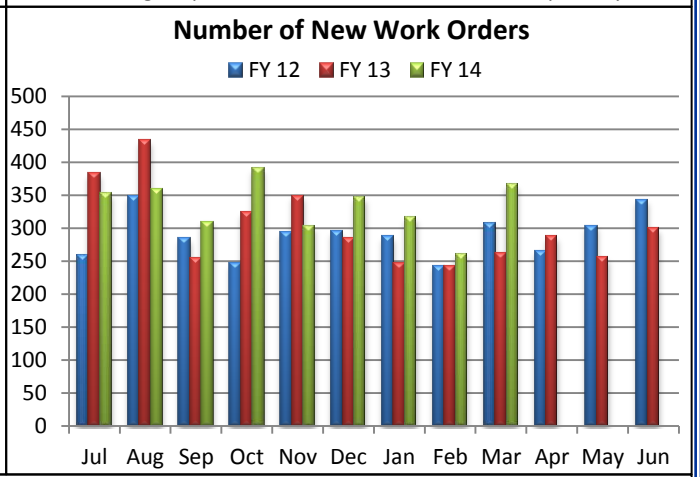

UDOT Traffic App Downloads
FY 12
FY 13
FY 14
30000
25000
20000
15000
10000
5000
0
Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun


UDOT Traffic App Downloads - March 2014
iPhone
Android
300
250
200
150
100
50
0
3/1/2014 3/2/2014 3/3/2014 3/4/2014 3/5/2014 3/6/2014 3/7/2014 3/8/2014 3/9/2014 3/10/2014 3/11/2014 3/12/2014 3/13/2014 3/14/2014 3/15/2014 3/16/2014 3/17/2014 3/18/2014 3/19/2014 3/20/2014 3/21/2014 3/22/2014 3/23/2014 3/24/2014 3/25/2014 3/26/2014 3/27/2014 3/28/2014 3/29/2014 3/30/2014 3/31/2014

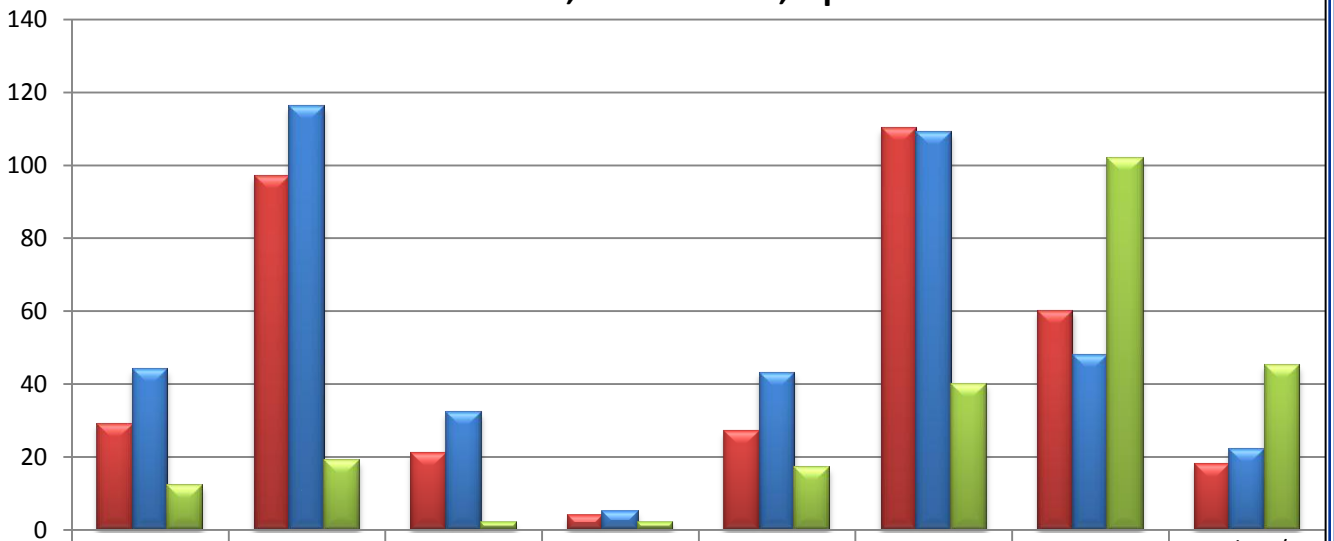








Work Order Statistics by Group - March 2014
Total New = 366, Closed = 419, Open = 239



	R1 Signal Maintenance	R2 Signal Maintenance	R3 Signal Maintenance	R4 Signal Maintenance	Signal Timing	ATMS	ISS	Other / Engineering / Contractor
New	29	97	21	4	27	110	60	18
Closed	44	116	32	5	43	109	48	22
Open	12	19	2	2	17	40	102	45